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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/627,973

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EXAMINER

GUPTA, PARUL H

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/627,973	Applicant(s) CHOI ET AL.	
	Examiner Parul Gupta	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,10-13 and 15-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-8,10-13 and 15-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1, 3-6, 7-8, 10-13, and 15-17 are pending for examination as interpreted by the examiner. The amendment and arguments filed on 7/16/07 were considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada, US Patent 5,286,965 in view of Kubota, US Patent Publication 2002/0101800.

Regarding claim 1, Okada discloses a method of preventing a disc from being scratched by an objective lens (abstract), the method comprising: performing a focus pull-in operation in which the objective lens is moved toward and away from a surface of the disc (column 4, lines 27-48); and moving the objective lens away from the disc if a level of a pull-in signal, generated during the focus pull-in operation to reflect a distance between the objective lens and the disc (column 4, lines 30-34), remains lower than a predetermined critical level for at least a predetermined critical period of time (column 4, lines 62-68). Okada does not but Kubota teaches the method wherein the predetermined critical period of time is set to a time for which the objective lens remains a minimum distance from the disc without damaging the disc when an actuator actuating a pickup, on which the objective lens is mounted, moves at an operational

maximum speed (paragraph 0015). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of the given predetermined critical period of time and level as taught by Kubota into the system of Okada. This would serve the purpose of ensuring that the focusing servo pull-in apparatus by which a focusing servo can be pulled in a recording surface is operated without accompanying a collision of an objective lens with a storage medium (paragraph 0015).

Regarding claim 6, Okada teaches a method of preventing a disc from being scratched by an objective lens (abstract), the method comprising: initializing a pull-in signal (initial signal read-out as given in column 4, lines 15-19), a level of which reflects a distance between the objective lens and a surface of the disc (column 4, lines 30-34); performing a focus pull-in operation in which the objective lens is moved toward and away from the surface of the disc (column 4, lines 27-48); checking the level of the pull-in signal (done continuously as given in column 4, lines 15-19); if the level of the pull-in signal is lower than a predetermined critical level, checking a time for which the level of the pull-in signal remains lower than the predetermined critical level (column 4, lines 34-38); and moving the objective lens away from the disc if the time is at least a predetermined critical period of time (column 4, lines 62-68). Okada does not but Kubota teaches the method wherein the predetermined critical period of time is set to a time for which the objective lens remains a minimum distance from the disc without damaging the disc when the actuator actuating a pickup, on which the objective lens is mounted, moves at an operational maximum speed (paragraph 0015). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the

concept of the given predetermined critical period of time and level as taught by Kubota into the system of Okada This would serve the purpose of ensuring that the focusing servo pull-in apparatus by which a focusing servo can be pulled in a recording surface is operated without accompanying a collision of an objective lens with a storage medium (paragraph 0015).

Regarding claim 13, Okada teaches in figure 3 an apparatus preventing a disc from being scratched by an objective lens, the apparatus comprising: a pickup (12) on which the an objective lens is mounted; an actuator actuating the pickup (17); a signal detector (21 and 22) detecting a pull-in signal from the pickup a level of which reflects a distance between the objective lens and a surface of the disc (column 4, lines 30-34); and a controlling unit (column 4, lines 62-68) that moves the objective lens away from the disc if the level of the pull-in signal is maintained lower than a predetermined critical level for at least a predetermined critical period of time. Okada does not but Kubota teaches the apparatus wherein the predetermined critical period of time is set to a time for which the objective lens remains a minimum distance from the disc without damaging the disc when the actuator moves at an operational maximum speed (paragraph 0015). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of the given predetermined critical period of time and level as taught by Kubota into the system of Okada This would serve the purpose of ensuring that the focusing servo pull-in apparatus by which a focusing servo can be pulled in a recording surface is operated without accompanying a collision of an objective lens with a storage medium (paragraph 0015).

2. Claims 3-5, 7-8, 10-12, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada in view of Kubota, further in view of Matsuda et al., US Patent 6,256,273.

Okada in view of Kubota teaches the limitations of the independent claims but fails to teach the further limitations regarding the current used to actuate the pickup as set forth in the following claims.

Regarding claim 3, Matsuda et al. teaches the method of claim 1, wherein the controlling the objective lens comprises applying a direct current signal to the actuator (column 5, line 67-column 6, line 5).

Regarding claim 4, Matsuda et al. teaches the method of claim 3, wherein the direct current signal (FBP) is applied to stop the actuator (column 6, lines 2-5).

Regarding claim 5, Matsuda et al. teaches the method of claim 1, wherein the pull-in signal (purpose served by the "focusing error signal") is one of a sum signal of signals focused onto a plurality of division light-receiving units of a photodiode (column 4, line 58-column 5, line 8) and a signal generated by filtering the sum signal through a low-pass filter (column 11, lines 5-8 explain how a band pass filter is used to serve the same purpose).

Regarding claim 7, Matsuda et al. teaches the method of claim 6, further comprising: if the time is not at least the predetermined critical period of time, outputting an average value of a drive signal (taking no action to perform focus jumping operation)

that was previously applied to the actuator (column 12, lines 1-12 and 27-58 explains how the process works if the time is reached or not).

Regarding claim 8, Matsuda et al. teaches the method of claim 6, wherein the initializing of the pull-in signal comprises initializing the pull-in signal to a level lower than a predetermined direct current level so as to detect the predetermined direct current level during the focus pull-in operation (column 5, lines 51-57 explains how the level given is initialized before the focus jump is operated and is thus at a lower value).

Regarding claim 10, Matsuda et al. teaches the method of claim 6, wherein, if the time is at least the predetermined critical period of time, the method further comprises applying a direct current signal to the actuator (column 5, line 67-column 6, line 5).

Regarding claim 11, Matsuda et al. teaches the method of claim 10, wherein the direct current signal (FBP) is applied to stop the actuator (column 6, lines 2-5).

Regarding claim 12, Matsuda et al. teaches the method of claim 6, wherein the pull-in signal (purpose served by the "focusing error signal") is one of a sum signal of signals focused onto a plurality of division light receiving units of a photodiode (column 4, line 58-column 5, line 8) and a signal generated by filtering the sum signal through a low-pass filter (column 11, lines 5-8 explain how a band pass filter is used to serve the same purpose).

Regarding claim 15, Matsuda et al. teaches the apparatus of claim 13, wherein the controlling unit applies a direct current signal to the actuator (column 5, line 67-column 6, line 5).

Regarding claim 16, Matsuda et al. teaches the apparatus of claim 13, wherein the controlling unit applies a direct current signal (FBP) to the actuator so as to stop the actuator (column 6, lines 2-5).

Regarding claim 17, Matsuda et al. teaches the apparatus of claim 13, wherein the pull-in signal (purpose served by the "focusing error signal") is one of a sum signal of signals focused onto a plurality of division light receiving units of a photodiode (column 4, line 58-column 5, line 8) and a signal generated by filtering the sum signal through a low-pass filter (column 11, lines 5-8 explain how a band pass filter is used to serve the same purpose).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of actuating the pickup using the given current signals as taught by Matsuda et al. into the system of Okada in view of Kubota. The motivation would be to provide a focusing control apparatus which can certainly perform a successful focus jumping operation (column 2, lines 30-33 of Matsuda et al.).

Response to Arguments

3. Applicant's arguments filed on 7/16/07 have been fully considered but they are not persuasive. Upon further consideration, the examiner has decided that the subject matter taught in Kubota is still applicable. The applicant contends that the reference teaches avoiding a collision of an objective lens with a storage medium, but does not teach details about the critical period of time. However, time is inherent. Thus, keeping

the two elements apart inherently means that the two are kept apart for a given period of time, regardless of the speed of the actuator.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Parul Gupta whose telephone number is 571-272-5260. The examiner can normally be reached on Monday through Thursday, from 8:30 AM to 7 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

Art Unit: 2627

published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PHG
9/25/07



WAYNE YOUNG
SUPERVISORY PATENT EXAMINER